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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/503,552	02/14/2000	Garry P. Epps	M-7413 US	6784

33031 7590 03/29/2004

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EXAMINER

HARPER, KEVIN C

ART UNIT	PAPER NUMBER
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2666

DATE MAILED: 03/29/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/503,552

Applicant(s)

EPPS ET AL.

Examiner

Kevin C. Harper

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-22, 35-40 and 50 is/are rejected.
- 7) ☒ Claim(s) 1-16, 23-34 and 41-49 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2.4</u> . | 6) <input type="checkbox"/> Other: _____  |

***Drawings***

1. The drawings are objected to because the following requires descriptive wording (37 CFR 1.83(a)): Figure 4, item 220; Figure 12, item 240; Figure 13, item 1220; Figure 14, item 1210; Figure 15, item 280; and, Figure 32, item 1510. Corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Objections***

2. Claims 1-16, 23-34 and 41-49 are objected to because in independent claims 1, 23, 41, 44 and 47, "optional corresponding tail portion" should be --corresponding tail portion--. The corresponding tail portion must be present to form a modified packet in the claims. Appropriate correction is required.

3. Claims 23-34 and 41-49 are objected to because in independent claims 23, 41, 44 and 47, "beginning said sequence in each said stage" should be --beginning an operation in each said stage--. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 17-21 and 35-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Waggener, Jr. et al. (US 5,553,061).

4. Regarding claims 17 and 35, Waggener discloses an apparatus for switching packets in a communications network (Figure 1), comprising a buffer for receiving packets (item 104) where the packets have a class of service indicator (col. 5, lines 65-67). The apparatus further comprises a transmit queue manager (items 112 and 114) connected to the buffer for enqueueing the packets into one of several queues (Figures 3 and 4; col. 5, lines 28-29) and an inherent dequeue circuit which uses the class of service indicator to dequeue each packet (Figure 4, items 414 and 416; col. 6, lines 50-67).

5. Regarding claims 18-19 and 36-37, the buffers (queues) are of different sizes or the same size (col. 5, lines 29-32).

6. Regarding claims 20-21 and 38-39, congestion avoidance uses the average depth of the queues (col. 6, lines 43-49 and 63-67; col. 6, lines 55-56).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

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evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 22 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waggener, Jr. et al., as applied to claim 17 or 35 above.

7. Regarding claims 22 and 40, Waggener does not disclose that a FIFO is coupled to the output of the queue circuit. Examiner takes Official Notice that an output FIFO is used to store packets waiting for transmission which have been previously prioritized and are awaiting transmission. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have a FIFO coupled to the output of the dequeue circuit of Waggener in order to flexibly allow packets ready for transmission to be held due to a destination node not being ready to receive the packet or to regulate the flow of data from the apparatus.

Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muller et al. (US 5,938,736) in view of Waggener, Jr. et al. (5,553,061).

8. Muller discloses an apparatus for switching packets (Figure 1) where the packets have a header portion and a tail portion (Figure 4). The apparatus comprises a pipelined switch comprising several stage circuits (Figure 5; col. 9, lines 56-65) for beginning an operation at substantially the same time for passing data when every operation is completed (col. 10, lines 20-25). The last stage circuit outputs a modified header and joins the modified header to the tail portion (col. 4, lines 38-40 and 50-54). However, Muller does not disclose a class of service value of packets or a queue manager for routing the packets using a class of service indicator.

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Waggener discloses an apparatus for switching packets in a communications network (Figure 1), comprising a buffer that receiving packets (item 104) where the packets have a class of service indicator (col. 5, lines 65-67). The apparatus further comprises a transmit queue manager (items 112 and 114) connected to the buffer for enqueueing the packets into one of several queues (Figures 3 and 4; col. 5, lines 28-29) and an inherent dequeue circuit which uses the class of service indicator to dequeue each packet (Figure 4, items 414 and 416; col. 6, lines 50-67). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have packets with class of service value and to route packets according to class of service values in the invention of Muller in order to give transmission priority to packets which have higher negotiated requirements or which have a higher priority due to customer payment.

#### ***Allowable Subject Matter***

9. Claims 1-16, 23-34 and 41-49 would be allowable if the above claim objections are overcome.

#### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sugai et al. (US 6,650,6412) discloses a pipelined switch (Figures 1, 3, 6 and 8-9).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Harper whose telephone number is 703-305-0139. The examiner can normally be reached weekdays, except Wednesday, from 9:30 AM to 8:00 PM ET.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao, can be reached at 703-308-5463. The centralized fax number for the Patent Office is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin C. Harper



March 21, 2004



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